AMENDMENTS TO THE CLAIMS

1. (Currently amended) A semiconductor integrated circuit device, comprising:

a semiconductor element being formed on a support substrate;

a signal transmission part formed in a gate electrode of the semiconductor element comprising:

a plurality of metal wiring layers spaced apart from each other and arranged in a vertical stack, and a plurality of metal via layers connected to the metal wiring layers and coupling the metal wiring layers with each other; and

a heat conduction part formed in an insulation film on the support substrate comprising:

a plurality of metal wiring layers spaced apart from each other and arranged in a vertical stack,

and a plurality of metal via layers connected to the metal wiring layers and coupling the metal wiring layers with each other,

wherein the heat conduction part provides a path different from a signal transmission path provided by the signal transmission part.

2. (Original) The semiconductor integrated circuit device as claimed in claim 1, wherein the support substrate comprises one of a semiconductor substrate and a SOI substrate.

3. (Original) The semiconductor integrated circuit device as claimed in claim 1, wherein the heat conduction part comprises an uppermost wiring layer.

4. (Previously Presented) The semiconductor integrated circuit device as claimed in claim 3, further comprising an aperture in the insulation film exposing the uppermost wiring layer.

5. (Original) The semiconductor integrated circuit device as claimed in claim 1, wherein the semiconductor element comprises a MOS transistor and said MOS transistor comprises one of a fully-depletion type SOI transistor, a partially-depletion type SOI transistor and a SON transistor.

6-7. (Canceled)

8. (Currently amended) The semiconductor integrated circuit device as claimed in claim 5, further comprising an element separation film arranged to electrically separate the MOS transistor, and wherein the heat conduction part is directly connected to the element separation film ~~or the heat conduction part is coupled with the heat conduction part through another element~~.

9. (Previously Presented) The semiconductor integrated circuit device as claimed in claim 1, wherein the heat conduction part comprises at least one dummy metal that is not connected to an element of the semiconductor integrated circuit device that is capable of conducting a signal transmission.

10. (Currently amended) A semiconductor integrated circuit device, comprising:

a plurality of semiconductor elements being formed on a support substrate;

a signal transmission part formed in a gate electrode of a semiconductor element comprising:

a plurality of metal wiring layers spaced apart from each other and arranged in a vertical stack, and a plurality of metal via layers connected to the metal wiring layers and coupling the metal wiring layers with each other;

a plurality of function modules being formed by modularizing the plurality of semiconductor elements for each function thereof; and

at least one heat conduction part comprising:

a plurality of metal wiring layers spaced apart from each other and arranged in a vertical stack, and

a plurality of metal via layers connected to the metal wiring layers and coupling the metal wiring layers with each other,

wherein the heat conduction part is formed ~~on a conductive layer~~ in an insulation film to provide a path different from a signal transmission path provided by the signal transmission part, and

wherein at least one of the plurality of function modules comprises one or more of the at least one heat conduction part.

11. (Original) The semiconductor integrated circuit device as claimed in claim 10, wherein the heat conduction part is arranged corresponding to heat capacity of a gate electrode of each of the plurality of function modules.

12. (Original) The semiconductor integrated circuit device as claimed in claim 10, further comprising:

at least one field cell being disposed in an empty space between the function modules, and

wherein one or more of the at least one field cell comprises one or more of the at least one heat conduction part.

13. (Original) The semiconductor integrated circuit device as claimed in claim 12, wherein the field cell having the heat conduction part is disposed corresponding to heat capacity of a gate electrode in a function module.

14-17. (Canceled)

18. (New) A semiconductor integrated circuit device comprising:

at least two inverter cells, the inverter cells further comprising:

source regions or drain regions enclosed by element separation films on a support substrate;

gate electrodes formed between the source regions or the drain regions on the support substrate;

input lines and output lines, the input lines being connected to the gate electrodes of the corresponding inverter cells, and the output lines being connected to source or drain regions of the corresponding inverter cells; and

at least one heat conduction part, at least one of the heat conduction part being directly connected to an element separation film on the support substrate of one of the inverter cells and the heat conduction part comprising:

a plurality of metal wiring layers spaced apart from each other and arranged in a vertical stack, and a plurality of metal via layers connected to the metal wiring layers and coupling the metal wiring layers with each other.

19. (New) The semiconductor integrated device of claim 18, wherein another heat conduction part is directly connected to a gate electrode of the corresponding inverter cell or coupled to the gate electrode through another element.

21. (New) The semiconductor integrated device of claim 18, wherein another head conduction part is directly connected to a source region of the corresponding inverter cell.

22. (New) The semiconductor integrated circuit device of claim 18, further comprising at least one field cell being arranged in an empty space between the inverter cells, the field cell comprising a heat conduction part.